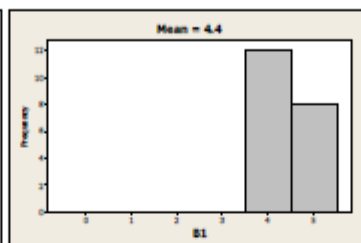
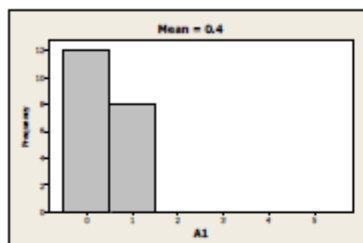


Introduction to Statistics and Data Analysis

Measuring Spread (Variability)

Part I. For each of the four pairs of histograms below, choose the statement from the box at the right that best describes the situation. HINT: Mark the value of the mean on the x-axis and consider where the data lies relative to the mean.

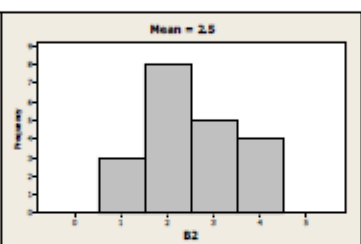
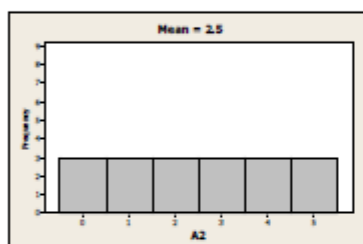


Pair #1

A has larger std dev

B has larger std dev

Both graphs have the same std dev

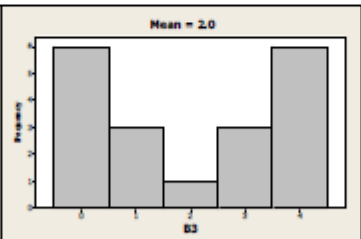
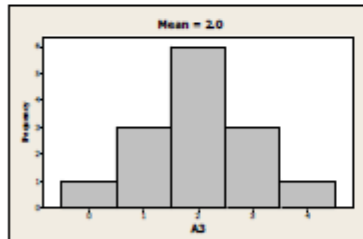


Pair #2

A has larger std dev

B has larger std dev

Both graphs have the same std dev

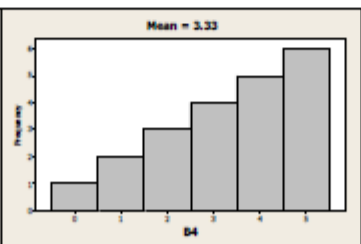
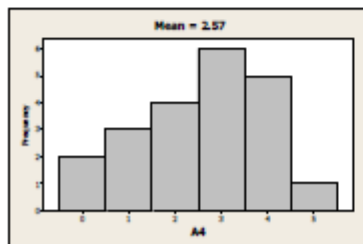


Pair #3

A has larger std dev

B has larger std dev

Both graphs have the same std dev



Pair #4

A has larger std dev

B has larger std dev

Both graphs have the same std dev

Part II. The twenty-two properties on a Monopoly board, and their respective rents, are listed in the table below.

PROPERTY	RENT
Mediterranean Ave.	2
Baltic Ave.	4
Oriental Ave.	6
Vermont Ave.	6
Connecticut Ave.	8
States Ave.	10
St. Charles Place	10
Virginia Ave.	12
St. James Place	14
Tennessee Ave.	14
New York Ave.	16

Kentucky Ave.	18
Indiana Ave.	18
Illinois Ave.	20
Atlantic Ave.	22
Ventnor Ave.	22
Marvin Gardens	24
Pacific Ave.	26
No. Carolina Ave.	26
Pennsylvania Ave.	28
Park Place	35
Boardwalk	40

****Enter the rents into a list in your calculator.****

1. Construct a histogram of the rents. Describe the shape of the distribution.

Plot

2. Compute the mean and standard deviation for the rents. Since this data set is the entire population of Monopoly rents, be sure to obtain the popn std dev.

Mean = _____

Std Dev = _____

Calc →
1-Var Stats

3. Why is it appropriate to apply the empirical rule to this set of data?

4. We expect $\approx 95\%$ of the rents to be between _____ and _____.

Approximately _____% of the rents are expected to be between 7.5 and 27.1.

5. Answer the following:

- A. What is the z-score for Baltic Ave.'s rent? Z-Score = _____

- B. Is this value considered "unusual"? Explain.

- C. Is Boardwalk's rent "unusual"? Explain.